

Claims

- [c1] 1. A synchronization arrangement of a locking ring type provided in a gear arrangement of a vehicle transmission comprising:
- a synchronization device configured to synchronize rotation speed between a shaft (5, 8) and a ring gear (14) which is coaxially arranged in relation to the shaft and forms part of a planetary gearing (7), the synchronization device is located between the ring gear (14) and a gear housing (3) forming part of the gear arrangement; the synchronization device further comprises a first clutch ring (21) fixed to the shaft (5, 8) and a second clutch ring (25) fixed to the gear box housing (3); at least one synchronization ring (24, 45) cooperatively arranged with the clutch rings by means of friction surfaces (23, 36, 26, 37) and which is axially displaceable, the synchronization ring being arranged to rotate with an axially displaceable clutch sleeve (18) which is fixed to the ring gear;
- at least one spring suspension element (28, 34, 46) which transmits bearing force from the clutch sleeve to the synchronization ring during synchronization and gear changing by means of cooperation with first re-

cesses (32, 33, 47, 48) in the clutch sleeve; the clutch sleeve, the clutch rings, the synchronization ring and the spring suspension element being provided on one side of the ring gear (14); one of the synchronization rings (24, 45) being constructed together with a mirror-inverted synchronization ring thereby forming a double synchronization ring (24, 45) and wherein the clutch sleeve (18), during axial movement for gear engagement separates the friction surfaces (23, 36, 26, 37) in the synchronization device from the gear which becomes disengaged because at least one second recess (42, 43, 49) is provided on the double synchronization ring (45) and the spring suspension element (46) cooperates with the second recess (42, 43, 49).

[c2] 2. The synchronization arrangement as recited in claim 1, wherein only one second recess (49) with axial surfaces is provided on the double synchronization ring (45) and only one spring suspension element (46) cooperates with the second recess (49) and the first recesses (47, 48).

[c3] 3. The synchronization arrangement as recited in claim 1, wherein synchronization is provided in a range gearing, which includes a planetary gearing (7).

- [c4] 4. The synchronization arrangement as recited in claim 1, wherein the spring suspension element is constituted by a garter spring (28, 34, 46).
- [c5] 5. The synchronization arrangement as recited in claim 1, wherein the second recesses (42, 43, 49) are provided in at least one bar (38, 39, 40, 41) for conveying the synchronization ring and where the bar is arranged on the synchronization ring.